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Marketing Practices of Ohio Grain Producers with Farm Storage

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JOHN W. SHARP and SUPRANEE RUNGDANAY[1]

INTRODUCTION

The marketing practices of farmers vary considerably, depending upon the marketing facilities available to them. Farm storage greatly increases farmers' grain marketing alternatives. This study is concerned with the marketing practices used by farmers who had invested in 10,000 bushels or more of farm storage capacity and a farm grain dryer. It is assumed that these farmers have the maximum number of grain marketing alternatives and thus how these farmers use these alternatives is important.[2]

In conducting a farm storage analysis for Ohio, a 10 percent sample was selected from the list of grain farmers in each Ohio county Agricultural Stabilization and Conservation office. Of the more than 16,000 questionnaires mailed, a total of 2,219 usable replies were received.[3] Of the 2,219 replies, 185 had 10,000 bushels or more farm storage and a dryer. These farmers represented most areas of Ohio where grain is an important part of the farm production program. This group was used to determine the marketing practices of farmers with a significant amount of farm storage. A questionnaire was developed and mailed to this group and 138 usable replies were received. The data obtained from the 138 questionnaires for the crop year 1971-1972 were analyzed.

METHODS OF MARKETING GRAIN

The total volume of grain marketed by the 138 farmers was 3,407,387 bushels or an average of 24,691 bushels per farm (Table 1). The data show that the grain producers sold 55.30 percent of grain from farm storage, 18.78 percent at harvest, 7.69 percent by advanced contract, 6.64 percent from commercial storage, 2.06 percent by selling futures contract, and 0.87 percent on a delayed price agreement. The remaining 8.77 percent of the grain was stored under Commodity Credit Corporation loans (CCC).[4] None of the following three methods was

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[2]This research is a contributing part to the North Central Regional Grain Marketing Project (NC-104).

[3]Sharp, John W. and Supranee Rungdanay. April 1975. Farm Grain Storage and Drying Facilities in Ohio and Their Use, 1971-1972. Ohio Agri. Res. and Dev. Center, Res. Circ. 204.

[4]Little difference was noted in the way farmers sold each type of grain.

TABLE 1.—Volume and Percentage of Grain Sold Through Each Marketing Method by 138 Ohio Grain Producers, 1971-72.

Methods of Marketing Grain	Volume of Grain Sold (bu.)	Percentage of Grain Sold
Sell at harvest	639,124	18.78
Store on farm and sell later	1,805,610	55.30
Store in commercial storage and sell later	201,928	6.64
Sell by advance contract	275,570	7.69
Sell by delayed price	36,423	0.87
Sell at harvest and buy futures	0	0
Store grain and sell futures	107,300	2.06
Store under Commodity Credit Corporation (CCC)	351,432	8.77
Sell futures before harvest, later sell at harvest, then buy back futures	0	0
Participate in pooling agreement	0	0
Total of grain sold	3,407,387	100.0
Average of grain sold per farm	24,691	

used by this group of Ohio grain producers in selling their grain in the crop year 1971-1972: 1) sell grain at harvest and buy a futures contract; 2) sell futures before harvest, then sell cash grain at harvest, and at the same time buy back futures contract; and 3) participate in a pooling agreement.

This indicates that the most popular methods of selling grain among the group of grain producers who have farm drying and storage facilities were: 1) selling from farm storage, and 2) selling for cash at harvest. These two methods of sale accounted for approximately 74 percent of total grain sold. The next most popular method in the crop year 1971-1972 was storage of grain under a CCC loan. The sample of 138 farmers sold less than 15 percent of their total grain from commercial storage, advanced contract, and delayed price agreement with the elevator. Approximately 2 percent of the cash grain was sold by futures contract.

To better understand differences in selling methods, the 138 sample farms were classified by size, type of farming, farm ownership, farming experience, and percentage of farm income from cash grain.

The data show that approximately 45 percent of the farms were between 250 and 500 acres (Table 2). This group of grain producers sold a smaller percentage of grain for cash at harvest but stored a higher percentage of grain under CCC loans than the farms with less than 250 acres or more than 500 acres. There was a direct relationship between the size of farm and the percentage of grain sold by advanced contract.

TABLE 2.—Amount of Grain Sold by Method of Marketing by Size of Farm* by 138 Ohio Grain Producers, 1971-72.

	Size of Farm					
	<250 acres		250-500 acres		>500 acres	
	Total	%	Total	%	Total	%
Number of Farms	36	26.09	62	44.93	40	28.98
Average Bushels of Grain Sold per Farm	6,817		20,835		46,754	
Methods of Marketing Grain:						
Sell at harvest	36,166	14.74	147,942	11.45	455,016	24.20
Store on farm and sell later	160,998	65.60	760,612	58.88	884,000	47.01
Store in commercial storage and sell later	30,280	12.34	79,308	6.14	92,340	4.91
Sell by advance contract	6,970	2.84	117,550	9.10	151,050	8.04
Sell by delayed price	2,000	0.81	18,423	1.43	16,000	0.85
Sell at harvest and buy futures						
Store grain and sell futures			15,000	1.16	92,300	4.91
Store under Commodity Credit Corporation (CCC)	9,000	3.67	152,952	12.30	189,480	7.59
Sell futures before harvest, later sell at harvest, then buy back futures						
Participate in pooling agreement						

*Size of farm is measured by the number of acres harvested.

TABLE 3.—Amount of Grain Sold by Method of Marketing and Percent of Corn Fed to Livestock by 138 Ohio Grain Producers, 1971-72.

	Percent of Corn Fed to Livestock					
	0%		1-50%		>50%	
	Total	%	Total	%	Total	%
Number of Farms	49	35.51	53	38.40	36	26.09
Average Bushels of Grain Sold per Farm	33,317		29,380		6,047	
Methods of Marketing Grain:						
Sell at harvest	287,749	17.52	313,649	20.14	37,726	17.33
Store on farm and sell later	870,714	53.00	812,968	52.21	121,928	56.01
Store in commercial storage and sell later	85,548	5.21	114,180	7.34	2,200	1.01
Sell by advance contract	111,300	6.78	134,420	8.63	29,850	13.71
Sell by delayed price	29,023	1.77	7,400	0.48		
Sell at harvest and buy futures						
Store grain and sell futures	45,000	2.74	48,000	3.08	14,300	6.57
Store under Commodity Credit Corporation (CCC)	213,232	12.98	126,500	8.12	11,700	5.37
Sell futures before harvest, later sell at harvest, then buy back futures						
Participate in pooling agreement						

An inverse relationship existed between the percentage of grain sold from commercial storage and size of farm. Farmers with more than 500 acres more frequently used the futures market because of the necessity to have volumes of grain which permitted selling the 5,000 bushel increments that the Chicago Board of Trade requires.

The farms were classified by the percentage of corn fed to livestock on the farm into three groups: 1) those feeding no corn to livestock, 2) those feeding 1 to 50 percent of corn production to livestock, and 3) those feeding more than 50 percent of corn to livestock (Table 3). For those farms feeding more than 50 percent of their annual corn production to livestock, the volume of cash grain averaged 6,047 bushels, while those farms feeding no corn to livestock averaged 33,317 bushels of cash grain. The group feeding more than 50 percent of the annual corn production to livestock sold a higher percentage of corn by advanced contract than those feeding less than 50 percent of annual corn production to livestock. The group feeding 1 to 50 percent of the annual corn crop to livestock sold a higher percentage of grain at harvest and also stored more grain in commercial storage than the other two groups. A few farmers who fed no corn to livestock or were strictly cash-grain farmers used delayed price agreements with elevators.

The majority of 138 grain producers in this sample owned some land and rented some land. The farmers who owned some land and rented some land accounted for 65 percent of the sample farms (Table 4). This group sold more grain per farm than any of the other groups. Twenty-one percent of the 138 grain producers were owner-operators; approximately 14 percent were tenant farmers and others, including corporations, partnerships, and cash renters. The owner-operator group sold a higher percentage of grain from farm storage, while the tenant farmer group sold a higher percentage of grain at harvest than the other groups. Selling by advance contract was used more frequently by the group categorized as others.

Farming experience was measured by the number of years the grain producer had been farming. Most of the grain producers in this sample had been farming for 15 to 30 years. Approximately 24 percent of the grain producers had been farming more than 30 years, while less than 15 percent had been farming less than 15 years (Table 5). However, the group farming less than 15 years sold the highest volume of grain per farm among the three groups. Farming experience was inversely related to the proportion of grain sold from commercial storage. This implies that the younger grain producers (as measured by the number of years of farming) used more elevator services than the older grain producers.

TABLE 4.—Amount of Grain Sold by Method of Marketing and Type of Farm Ownership by 138 Ohio Grain Producers, 1971-72.

	Type of Ownership							
	Owner-Operator		Tenant Farmer		Own Some Land and Rent Some Land		Others*	
	Total	%†	Total	%†	Total	%†	Total	%†
Number of Farms	29	21 01	9	6 52	90	65 22	10	7 25
Average Bushels of Grain Sold per Farm	12,336		24,329		29,517		17,417	
Methods of Marketing Grain								
Sell at harvest	31,550	8 82	64,500	29 46	517,810	19 42	25 264	14 51
Store on farm and sell later	201,788	56 41	92,400	42 20	1,445,219	54 20	66,203	38 01
Store in commercial storage and sell later	7,800	2 18	26,260	12 00	159,168	5 97	8 700	5 00
Sell by advance contract	12,900	3 60	15,200	6 94	227,870	8 55	19 600	11 25
Sell by delayed price			1,000	0 45	35 423	1 33		
Sell at harvest and buy futures								
Store grain and sell futures	34,300	9 59			25,000	0 93	48,000	27 56
Store under Commodity Credit Corporation (CCC)	69,400	19 40	19 600	8 95	256 032	9 60	6,400	3 67
Sell futures before harvest, later sell at harvest, then buy back futures								
Participate in pooling agreement								

*Others include corporations, partnerships, and cash rent farms
†Percentages may total more than 100 since some farmers used more than one method

TABLE 5.—Amount of Grain Sold by Method of Marketing and Years of Marketing Experience by 138 Ohio Grain Producers, 1971-72.

	Marketing Experience*					
	<15 years		15-30 years		>30 years	
	Total	%	Total	%	Total	%
Number of Farms	20	14.49	85	61.59	33	23.91
Average Bushels of Grain Sold per Farm	33,049		25,767		16,856	
Methods of Marketing Grain:						
Sell at harvest	94,278	14.05	447,766	20.45	97,080	17.45
Store on farm and sell later	350,544	52.24	1,129,675	51.58	325,391	58.50
Store in commercial storage and sell later	46,200	6.89	132,548	6.05	23,180	4.17
Sell by advance contract	48,200	7.18	219,620	10.03	7,750	1.39
Sell by delayed price	11,023	1.64	15,150	0.69	10,250	1.84
Sell at harvest and buy futures						
Store grain and sell futures	10,000	1.49	49,300	2.25	48,000	8.63
Store under Commodity Credit Corporation (CCC)	110,732	16.50	196,100	8.95	44,600	8.02
Sell futures before harvest, later sell at harvest, then buy back futures						
Participate in pooling agreement						

*Marketing experience is measured by number of years the individual grain producer has been marketing.

TABLE 6.—Amount of Grain Sold by Method of Marketing and Percentage of Farm Income Received from Grain by 138 Ohio Farmers, 1971-72.

	Percent of Income from Grain Sold					
	<50%		50-80%		>80%	
	Total	%	Total	%	Total	%
Number of Farms	36	26.09	37	26.81	65	47.10
Average Bushels of Grain Sold per Farm	8,570		25,624		33,089	
Methods of Marketing Grain:						
Sell at harvest	57,426	18.61	126,714	13.37	454,984	21.06
Store on farm and sell later	179,828	58.29	521,312	54.99	1,104,470	51 11
Store in commercial storage and sell later	22,700	7.36	58,800	6.20	120,428	5.57
Sell by advance contract	21,350	6 92	88,270	9.31	165,950	7.68
Sell by delayed price			10,023	1.06	26,400	1.22
Sell at harvest and buy futures						
Store grain and sell futures			48,000	5.06	59,300	2.75
Store under Commodity Credit Corporation (CCC)	27,200	8.82	94,952	10.01	229,280	10.61
Sell futures before harvest, later sell at harvest, then buy back futures						
Participate in pooling agreement						

The 138 sample farms were classified into three different groups according to the percentage of income from cash grain. Nearly one-half of grain producers earned more than 80 percent of their farm income from cash grain. A little more than one-fourth of the sample grain producers earned less than 50 percent of their farm income from cash grain sales (Table 6). Those with less than 50 percent of farm income from cash grain sold a higher percentage of grain from farm storage than the other two groups. The group with more than 80 percent of farm income from cash grain sold a higher percentage of grain at harvest. The group with less than 50 percent sold no grain by delayed price agreement nor by selling futures contracts. The group with 50 to 80 percent of farm income from cash grain used the futures market more than the other groups and also used the CCC storage program to a greater extent.

It can be concluded that typically the group of grain producers who had a dryer and 10,000 bushels or more of farm storage had a farm size of 250-500 acres, used less than 50 percent of corn for livestock feed on the farm, owned some land and rented some land, had been farming for 15 to 30 years, earned more than 80 percent of farm income from cash grain, and sold more than 50 percent of their grain from farm storage.

METHODS OF TRANSPORTATION OF GRAIN

The 138 grain producers in the sample owned 206 trucks ranging in size from 0.5 to 39 tons licensed capacity. Eighty-two percent of these trucks had less than 10 tons capacity (Table 7). The two most common sizes of trucks were 6 to 8 tons and 4 tons or less.

About 71 percent of the grain producers moved all of their grain by truck and another 22 percent moved most of it by truck (Table 8).

TABLE 7.—Number and Percentage of Different Size Trucks Owned by the Sample of 138 Grain Producers in Ohio, 1972.

Licensed Capacity	Number of Trucks	Percentage
Up to 4 tons	53	25.73
4.1 to 6 tons	24	11.65
6.1 to 8 tons	66	32.04
8.1 to 10 tons	26	12.62
10.1 to 12 tons	3	1.46
12.1 to 16 tons	24	11.65
16.1 to 20 tons	4	1.94
More than 20 tons	6	2.91
Total	206	100 00

TABLE 8.—Number and Percentage of the Sample of 138 Grain Producers Who Moved Their Grain by Different Means of Transportation.

Means of Transporting Grain from Farm	Number of Responses	Percentage
100% of grain moved by truck	92	71.32
50-99% of grain moved by truck	29	22.48
Less than 50% of grain moved by truck	3	2.33
100% of grain moved by tractor wagon	4	3.10
100% of grain moved by truck wagon	1	0.77
Total	129	100.00

Approximately 4 percent moved grain from the farm by tractor wagon and truck wagon.

FACTORS AFFECTING THE MARKETING DECISION

The 138 grain producers were asked to rank reasons for selecting a method of selling grain, reasons for choice of market outlets, and advantages of farm drying and storage. These rankings are summarized in Table 9. A coefficient of concordance W was computed to determine the standard agreement among the 138 grain producers. Since the X^2-value of all three rankings is highly significant at the 5 percent level, it can be concluded with considerable assurance that the agreement among the 138 grain producers was higher than it would be by chance.[5] The producers were applying essentially the same standard in ranking the given reasons in selecting the methods of sale and market outlets, and the advantages of having dryer and storage on the farm.

The first three method of sale reasons selected by the 138 grain producers were: 1) the most profitable method, 2) a higher price later in the season, and 3) convenience. This implies that grain producers gave economic factors the first priority in selecting a method of sale. Convenience can be considered an economic cost since time is an essential and costly factor, especially during the harvest season. Risk minimization of price fluctuation was ranked fifth among the seven reasons given in selecting the methods of sale. This shows that the risk of price fluctuation was not considered an important factor by the grain producers who store approximately 62 percent[6] of their grain for sale later in the season.

[5]The statistical procedure is developed from Siegel, Sidney. 1956. Nonparametric Statistics for the Behavioral Sciences. McGraw-Hill Book Co., Inc., New York, pp. 229-239.

[6]As shown in Table 1, on the average the grain producers sold 55.30 percent of grain from farm storage and 6.64 percent of grain from commercial storage.

TABLE 9.—Ranking of Factors Affecting Market Decisions in Order of Importance by the Sample of 138 Grain Producers in Ohio, 1972.

Ranking	Reasons for Selecting Methods of Sale	Reasons for Selecting Market Outlets	Advantages of Having Dryer and Storage on the Farm
1	Present method has been profitable	Higher prices	Convenience
2	Wait for later price increases	Closeness of location	A profitable investment
3	Convenience	Fair and accurate in grading and weighing	Cheaper to store on farm than in elevator
4	Consider pros and cons of various methods	Efficient grain handling facilities	More market flexibility
5	Minimum risk of price fluctuation	Receive premium price for large lot of grain	Storage of feed for livestock
6	Always sell in same way	Loyalty to firm or manager	No commercial storage available
7	Not satisfied with other method tried	Outlet provides needed services	Low interest government loan available to buy farm storage
8		Farm supplies available	Government storage payment
9		Firm provides credit for purchases	
W	0.2456	0.2085	0.3561
X^2	203.382**	230.220**	343.994**

**Significant at the 0.5 percent level.

TABLE 10.—Rankings Given for Seven Reasons in Selecting the Methods of Sale by Sample of 138 Ohio Grain Producers in Different Classifications.

Classification		Number of Farms	Reasons in Selecting Methods of Sale†							W	X^2
			A	B	C	D	E	F	G		
Size of Farm	<250 acres	36	5	2	1	6	4	3	7	.1803	38.95
	250-500 acres	62	4	3	1	6	5	2	7	.2956	109.74**
	>500 acres	40	3	4	1	6	5	2	7	.2628	63.08
Farm Ownership	Owner-operator	29	4	3	1	6	5	2	7	.2245	39.07
	Tenant	9	3	1	2	6	5	4	7	.4504	24.32**
	Own and rent some land	90	4	3	2	6	5	1	7	.2456	132.64**
	Others	10	2	3	1	7	5	4	6	.3527	21.16
Percent of Corn Fed to Livestock	0%	49	3	4	2	6	5	1	7	.2658	78.13*
	1-50%	53	4	3	1	7	5	2	6	.3738	118.86**
	>50%	36	3	1	2	6	5	4	7	.1526	32.96
Farming Experience	<15 years	20	2	4	3	7	5	1	6	.4188	50.25**
	15-30 years	85	4	3	1	6	5	2	7	.2099	107.03
	>30 years	33	4	3	1	6	5	2	7	.3464	68.58**
Percentage of Income from Grain Sold to Total Farm Income	<50%	36	4	1	2	6	5	3	7	.1522	32.87
	50-80%	37	3	4	1	6	5	2	7	.2522	55.98*
	>80%	65	4	3	1	6	5	2	7	.3261	127.18**

†The seven reasons in selecting the methods of sale:
A. Consider pros and cons of various methods
B. Convenience
C. Present method has been profitable
D. Always sell in same way
E. Minimize risk of price fluctuation
F. Wait for later price increases
G. Not satisfied with other method tried

*Significant at the 1 percent level.
**Significant at the 0.5 percent level.

The most important reason given by the 138 grain producers in selecting market outlets was the higher price. The selection of closeness of the market location as the second reason implies that the difference in price paid by grain purchasers in different locations was not adequate to offset the cost of transportation between such locations.

The quality of the regular elevator services such as the fairness and accuracy of grading and weighing, including the efficiency of grain handling facilities,[7] were ranked as more important factors in selecting the outlets than the elevators' additional services. The additional services refer to: 1) availability of farm supplies, 2) availability of credit, and 3) other services.

When the given rankings were rated by different classifications of the 138 grain producers, a variation in agreement existed in the ranking of profitability as the most important reason in selecting the methods of sale by different classified groups (Table 10). Tenant farmers, farmers who fed more than 50 percent of corn to livestock, or farmers who earned less than 50 percent of farm income from cash grain ranked convenience as the most important reason for selecting the methods of sale. This may be due to the fact that cash grain sales are relatively less important for producers; therefore, grain price may not be as important.

The grain producers who owned some land and rented some land, those who did not use any corn to feed livestock on the farm, and those who have been farming less than 15 years ranked expectation of the later price increases as the most important reason in selecting the methods of sale. The three least important reasons (the fifth, sixth, and seventh) in selecting the methods of sale were the same reasons except the ranking order in each of the classified groups. However, the X^2-values show that not every group applied the same standard in ranking the given seven reasons in selecting the methods of sale.

This indicates that the 138 grain producers applied the same standard in ranking the given seven reasons in selecting the methods of sale. However, none of the classified groups either by size, ownership, type of farming, farming experience, or percentage of farm income from cash grain was applying the same rating to the given seven reasons, and some groups did not even apply the same standard in such rating. This implies that grain producers who belong to different classified groups had different reasons in selecting the methods of sale.

There is different agreement in rating the higher price offered by the outlet and the location of the outlet as the most important reason in

[7]The efficiency of grain handling facilities in this study refers to the time used in waiting for service.

TABLE 11.—Rankings Given for Nine Reasons in Selecting the Market Outlets by Sample of 138 Ohio Grain Producers in Different Classifications.

Classification		Number of Farms	Reasons in Selecting Market Outlet†									W	X^2
			A	B	C	D	E	F	G	H	I		
Size of Farm	<250 acres	36	6	3	1	2	7	8	4	5	9	.2398	69.06**
	250-500 acres	62	6	3	2	1	8	9	4	7	5	.2541	126.06**
	>500 acres	40	6	3	2	1	8	9	4	7	5	.1911	61.15
Farm Ownership	Owner-operator	29	5	2	3	1	8	9	4	6	7	.1911	44.34
	Tenant	9	5	2	1	3	4	8	5	7	9	.3304	23.79**
	Own and rent some land	90	6	3	2	1	8	9	4	7	5	.2617	188.39**
	Others	10	6	3	2	1	8	9	4	7	5	.4858	38.87**
Percent of Corn Fed to Livestock	0%	49	6	3	2	1	9	8	4	7	5	.3489	136.79**
	1-50%	53	6	3	2	1	8	9	4	7	5	.2391	101.40**
	>50%	36	6	2	1	3	7	8	4	5	9	.1835	52.85*
Farming Experience	<15 years	20	6	3	2	1	9	6	5	8	4	.3864	61.82**
	15-30 years	85	6	4	2	1	8	9	3	7	5	.1825	124.09**
	>30 years	33	6	2	1	3	7	8	4	5	9	.3490	92.14**
Percentage of Income from Grain Sold to Total Farm Income	<50%	36	5	2	1	3	8	9	4	7	6	.2242	64.56**
	50-80%	37	6	3	2	1	7	9	4	8	5	.6076	179.86**
	>80%	65	5	4	2	1	8	9	3	7	6	.2829	147.10**

†The nine reasons in selecting the market outlets:
A. Loyalty to firm or manager
B. Moisture, foreign matter, test weights, and shrinkage discounts are fair and accurate
C. Closeness of location
D. Higher prices
E. Farm supplies (seed, fertilizer) available
F. Firm provides credit for purchases
G. Efficient grain handling facilities—minimum time lost by waiting
H. Outlet provides needed services (drying, storage)
I. Receive premium price for large lot of grain

*Significant at the 1 percent level.
**Significant at the 0.5 percent level.

selecting such market outlet by different classified groups of the 138 grain producers (Table 11). The group with a relatively small size tenant-landlord operation, which fed more than 50 percent of corn to livestock on the farm, had been farming more than 30 years, and earned less than 50 percent of their farm income from cash grain agreed that the location of the outlet was the most important reason, while the other groups agreed that higher price was the most important reason. The ranking of the given nine reasons was slightly different among the classified groups.

X^2-values show that the group with more than 500 acres and owner-operators did not apply the same standard in ranking the nine given reasons in selecting the market outlets as the other groups. All other groups applied the same standard in such ranking.

Most of the classified groups ranked convenience as the first or second advantage for having farm drying and storage facilities (Table 12). The group having a large number of livestock on the farm (as measured by more than 50 percent of corn fed to livestock and less than 50 percent of farm income generated from cash grain) ranked farm storage to store feed for livestock as the first priority advantage and convenience as the second advantage, while owner-operators and others agreed to rank farm drying and storage facilities as a profitable investment as the number one advantage. The government storage program and the lack of commercial storage space were ranked by almost every classified group as the least important advantage for having farm drying and storage facilities.

X^2-values show that the agreement among the 138 grain producers within each classified group is higher than it would be by chance. This implies that the grain producers who were classified into the same group either by size, type of farming, farm ownership, farming experience, or the percentage of farm income generated from cash grain were applying essentially the same standard in rating the eight advantages of having farm drying and storage facilities. The rankings of the nine advantages were slightly different among the classified groups, and the different rankings were logical.

TABLE 12.—Rankings Given for Eight Advantages of Having Farm Storage by Sample of 138 Ohio Grain Producers in Different Classifications.

Classification		Number of Farms	Advantages of Having Farm Storage†								W	X^2
			A	B	C	D	E	F	G	H		
Size of Farm	<250 acres	36	1	2	8	7	3	6	5	4	.4407	111.06**
	250-500 acres	62	1	4	8	7	5	6	3	2	.3896	169.08**
	>500 acres	40	1	4	8	7	5	6	3	2	.3246	90.90**
Farm Ownership	Owner-operator	29	1	3	8	7	4	6	5	1	.3241	65.79**
	Tenant	9	1	2	8	7	3	6	5	4	.4175	26.30**
	Own and rent some land	90	1	4	8	7	5	6	3	2	.3668	231.07**
	Others	10	2	5	7	6	4	7	3	1	.4966	34.76**
Percent of Corn Fed to Livestock	0%	49	1	4	6	7	8	5	2	3	.5104	175.06**
	1-50%	53	1	5	7	8	3	6	4	2	.3819	141.67**
	>50%	36	2	3	8	7	1	6	5	4	.5208	131.25**
Farming Experience	<15 years	20	1	3	7	5	8	6	4	2	.6093	85.30**
	15-30 years	85	1	3	8	7	5	6	4	2	.3551	211.29**
	>30 years	33	1	5	8	7	4	6	3	2	.3622	83.67**
Percentage of Income from Grain Sold to Total Farm Income	<50%	36	2	3	8	6	1	7	5	4	.5521	139.17**
	50-80%	37	1	4	8	7	5	6	3	2	.3299	85.45**
	>80%	65	1	4	7	8	5	6	3	2	.4232	192.55**

†The eight advantages (grain producers believe) of having farm storage:
A. Convenience
B. Cheaper to store on farm than in elevator
C. Government storage payment
D. Low interest government loan available to buy farm storage
E. Storage of feed for livestock
F. Storage not available at commercial elevators
G. More market flexibility
H. Farm storage and drying facilities are a profitable investment

**Significant at the 0.5 percent level.

SUMMARY AND CONCLUSIONS

Grain farmers having at least 10,000 bushels of farm storage and a farm dryer have a wide range of marketing alternatives for their grain. Probably the most significant finding of this research deals with the problem of farmer convenience during the rush of harvest. Farmers with storage listed convenience as the number one advantage of having farm storage and a farm dryer.

When grain is stored on the farm, market flexibility is improved and flexibility is reflected in the methods of sale used by this group. Farmers having more than 10,000 bushels of storage stored more than 55% of their grain on the farm. Since a large percentage of these farmers have trucks, their market alternatives extended far beyond their local elevator. Price was the most important factor in choosing this market location when selling grain out of storage.

Very few of the farmers who had storage used the futures market or sold grain by delayed price. Their excess grain was either sold for cash at harvest, contracted in advance of harvest, or stored commercially. It was also significant that the farmers who have farm storage and a dryer believed that their investment in this equipment was a profitable one. Thus convenience, price, and profitability were the primary factors underlying the decision to invest in farm storage.

The State Is the Campus for Agricultural Research and Development

Ohio's major soil types and climatic conditions are represented at the Research Center's 12 locations.

Research is conducted by 15 departments on nearly 7,000 acres at Center headquarters in Wooster, seven branches, Green Springs Crops Research Unit, Pomerene Forest Laboratory, North Appalachian Experimental Watershed, and The Ohio State University.

Center Headquarters, Wooster, Wayne County: 1953 acres

Eastern Ohio Resource Development Center, Caldwell, Noble County: 2053 acres

Green Springs Crops Research Unit, Green Springs, Sandusky County: 26 acres

Jackson Branch, Jackson, Jackson County: 502 acres

Mahoning County Farm, Canfield: 275 acres

Muck Crops Branch, Willard, Huron County: 15 acres

North Appalachian Experimental Watershed, Coshocton, Coshocton County: 1047 acres (Cooperative with Agricultural Research Service, U. S. Dept. of Agriculture)

Northwestern Branch, Hoytville, Wood County: 247 acres

Pomerene Forest Laboratory, Coshocton County: 227 acres

Southern Branch, Ripley, Brown County: 275 acres

Western Branch, South Charleston, Clark County: 428 acres